In the Claims:

1. (Currently Amended) A method for distributed upstream quality of service (QOS) processing in a broadband access system, the method comprising:

measuring a quality of received packets sent by a modem in an upstream channel at an upstream modem termination system;

determining whether the measured quality is within a predetermined range;

reporting an out-of-range quality for the received packets to a network management server; and

modifying operating parameters for the upstream channel in accordance with the measured quality, if an out-of-range quality is reported;

wherein the out-of-range quality reported includes a measured quality above a high quality threshold and is reported at a higher priority than measured qualities below a low quality threshold.

2. (Original) The method of Claim 1, wherein measuring a quality of received packets comprises measuring a signal-to-noise ratio (SNR).

3. (Original) The method of Claim 1, wherein measuring a quality of received packets comprises measuring a bit error rate (BER).

4. (Original) The method of Claim 1, wherein measuring a quality of received packets comprises measuring a Forward Error Correction (FEC) quality measure.

5. (Original) The method of Claim 1, wherein if the quality measure is below a predetermined lower limit for some averaged or weighted averaged value for a series of packets, then the modem ID and the measured quality data of a particular packet or average is reported to the network management server.

6. (Currently Amended) The method of Claim 5, wherein the network management server reassigns the modem to a different downstream channel in the same or overlapping[[.]] sector, which has a different operating frequency.

7. (Original) The method of Claim 5, wherein the network management server reassigns the modem to a lower order modulation type.

8. (Original) The method of Claim 5, wherein the network management server reassigns the modem to a lower symbol rate.

9. (Original) The method of Claim 5, wherein the network management server reassigns the modem to a more robust Forward Error Correction scheme.

10. (Original) The method of Claim 5, wherein the network management server reassigns the modem to a combination of a different frequency, a lower order modulation type, a lower symbol rate, and a more robust Forward Error Correction scheme.

11. (Original) The method of Claim 1, wherein if the quality measure is above a predetermined upper limit for some averaged or weighted averaged value for a series of packets, then the modem ID and the measured quality data of a particular packet or average is reported to the network management server.

12. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a channel with a higher order modulation.

13. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a different type of modulation.

14. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a faster symbol rate.

15. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a lower Forward Error Correction scheme. (Original)

16. (Original) The method of Claim 11, wherein the network management server reassigns the modem to a channel which has similar parameters but less traffic.

17. (Cancel)

18. (Currently Amended) The method of Claim ~~17~~ 21, wherein if the measured quality is below a lower limit, the network management server reassign the modem to a different downstream channel.

19. (Currently Amended) The method of Claim ~~17~~ 21, wherein if the measured quality exceeds an upper limit, then the modem sends an exception signal offering to move to a less utilized channel.

20. (Currently Amended) The method of Claim ~~17~~21, wherein if the measured quality exceeds an upper limit, then the modem sends an exception signal offering to move to a channel with a higher net data rate.

21. (Currently Amended) A ~~The~~ method ~~of Claim 17~~, for distributed downstream quality of service (QOS) processing in a broadband access system, the method comprising:

measuring a quality of received packets in a downstream channel at a modem;

comparing the measured quality with predetermined boundary conditions;

determining whether the measured quality is within the predetermined boundary conditions;

sending an exception to a network management server, if the measured quality is outside the boundary conditions; and

modifying operating parameters for the downstream channel in accordance with the measured quality;

wherein if the measured quality is below a lower boundary condition, the exception is sent with a high priority, and if the measured quality is above a high boundary condition, the exception is sent with a lower priority.

22. (Currently Amended) A method for distributed processing for optimal quality of service (QOS) in a broadband access system, the method comprising:

a method for distributed upstream quality of service (QOS) processing, the method comprising:

measuring a quality of received packets sent by a modem in an upstream channel at an upstream modem termination system;

determining whether the measured quality is within a predetermined range;

reporting an out-of-range quality for the received packets to a network management server; and

modifying operating parameters for the upstream channel in accordance with the measured quality, if an out-of-range quality is reported; and

a method for distributed downstream quality of service (QOS) processing, the method comprising:

measuring a quality of received packets in a downstream channel at a modem;

comparing the measured quality with predetermined boundary conditions;

determining whether the measured quality is within the predetermined boundary conditions;

sending an exception to a network management server, if the measured quality is outside the boundary conditions; and

modifying operating parameters for the downstream channel in accordance with the measured quality;

wherein:

the exception is sent,

at a first priority if the measured quality is below and outside the boundary conditions, and

at a second priority if the measured quality is above and outside the boundary conditions; and

the first priority is higher than the second priority.

23. (New) The method according to Claim 21, wherein the method is performed in a broadband wireless access system.

24. (New) The method according to Claim 1, wherein the method is performed in a broadband wireless access system.

25. (New) The method according to Claim 22, wherein the method is performed in a broadband wireless access system.